

EXHIBIT 4

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(Rev. 8/78)

SERIAL NUMBER (series of 1979) 435115		PATENT DATE		PATENT NUMBER																			
SERIAL NUMBER 04/435,115	FILING DATE 01/03/83	CLASS 340	SUBCLASS 707	GROUP ART UNIT 234 264	EXAMINER BR16444 Carter																		
APPLICANTS ZENJI HARADA, HYOGO, JAPAN; OSAMU TERAOKA, OSAKA, JAPAN; TSUNEO MIKADO, TOKYO, JAPAN.																							
CONTINUING DATA*** VERIFIED AKNS - 27																							
FOREIGN/PCT APPLICATIONS*** VERIFIED <table border="0"> <tr> <td>Japan</td> <td>57-2531</td> <td>11 January '82</td> </tr> <tr> <td>"</td> <td>57-6971</td> <td>20 January '82</td> </tr> </table>						Japan	57-2531	11 January '82	"	57-6971	20 January '82												
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NORRAN L. NORRIS WOODCOCK, WASHBURN, KURTZ, MACKIEWICZ & NORRIS, 1800 UNITED ENGINEERS BLDG. 30 SOUTH 17TH ST. PHILADELPHIA, PA 19103																							
PICTURE PROCESSING SYSTEM																							
U.S. DEPT. of COMM., Pat. & TM Office - PTO-436L (rev. 10-77)																							
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PARTS OF APPLICATION FILED SEPARATELY <i>The following drawings have been filed separately 1/11/83</i>				PREPARED FOR ISSUE <table border="1"> <tr> <td>(Assistant Examiner)</td> <td>(Docket Clerk)</td> </tr> </table>		(Assistant Examiner)	(Docket Clerk)																
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AT ALLOWANCE <table border="1"> <tr> <td>SHEETS DRWS.</td> <td>FIGURES DRWS.</td> <td>CLAIMS</td> <td>CLASS</td> <td>SUBCLASS</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				SHEETS DRWS.	FIGURES DRWS.	CLAIMS	CLASS	SUBCLASS						EXAMINED AND PASSED FOR ISSUE <table border="1"> <tr> <td>(Primary Examiner)</td> <td>(Art Unit)</td> </tr> </table>		(Primary Examiner)	(Art Unit)						
SHEETS DRWS.	FIGURES DRWS.	CLAIMS	CLASS	SUBCLASS																			
(Primary Examiner)	(Art Unit)																						
RETENTION LABEL				Estimate of printed pages Drawing(s) Spec(s)																			
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EXHIBIT NO.

3

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 (WITNESS) (DATE)

JANIS JENNINGS, CSR 3942

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CONTENTS

1. Applications papers.
2. *Pre Auth Joe letter Jan 3, 1983*
3. *Minority Papers Aug 22, 1983*
4. *Reg. (3 mg) Jan 23, 1985*
5. *Small Reg. Papers July 29, 1985*
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11. *Request for access 9-13-01*
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- 13.
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- 16.
- 17.
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Case Doc. No. TS-25/P2919

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of

Inventor: Harada, Teraoka and Mikado

For: PICTURE PROCESSING SYSTEM

Enclosed are:

- ☒ Three sheets of drawing. (Formal)
- ☒ An assignment of the invention to NIPPON TELEVISION INDUSTRY CORP., and KANSAI TELECASTING CORPORATION; 1-26-2-302, Nishigotanda, Shinagawa-ku, Tokyo, Japan; and 5-17, Nishitenma 6-chome, Kita-ku, Osaka, Japan
- ☐ A certified copy of a _____ application.
- ☒ An associate power of attorney.
- ☐ A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.
- ☒ Specification, inc. claims & abstract (pp. 1-12) and Declaration and Power of Attorney

The filing fee has been calculated as shown below:

(Col. 1)		(Col. 2)	SMALL ENTITY		OR	OTHER THAN A SMALL ENTITY	
FOR:	NO. FILED	NO. EXTRA	RATE	FEE		RATE	FEE
BASIC FEE				\$150	OR		\$300
TOTAL CLAIMS	5 -20=	* 0	x5=	\$	OR	x10=	\$ 0
INDEP CLAIMS	1 -3=	* 0	x15=	\$	OR	x30=	\$ 0
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED			+50=	\$	OR	+100=	\$
* If the difference in Col. 1 is less than zero, enter "0" in Col. 2			TOTAL	\$	OR	TOTAL	\$ 300

- ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____. A duplicate copy of this sheet is enclosed.
- ☒ A check in the amount of \$ 300.00 to cover the filing fee is enclosed.
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- ☒ Any patent application processing fees under 37 CFR 1.17.
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- ☒ Any patent application processing fees under 37 CFR 1.17.
- ☐ The issue fee set in 37 CFR 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR 1.311(b).
- ☒ Any filing fees under 37 CFR 1.16 for presentation of extra claims.

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12/29/82
(Date)

(Attorney of Record)
Norman L. Norris, Reg. #24,196



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4551.5

Title: PICTURE PROCESSING SYSTEM

Inventors: Zenji Harada, Osamu Teraoka and
Tsuneo Mikado

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BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to a picture processing apparatus for selecting a desired picture from a plurality of still pictures formed on a monitor screen by means of selecting means and rearranging them in a desired order.

Description of the prior art

A picture display system for reproducing digital information representative of a plurality of still pictures (about 100 fields, for example) recorded in a disk type recording medium and displaying it on a monitor has been well known as prior arts. Such a system as this is generally used, in a TV station for example, for a programming apparatus of a picture on-air control system by which programs in a predetermined order arranged in advance are automatically progressed by use of a plurality of VTRs. In this programming apparatus picture or character information representative of the contents of each program such as news program or ^{commercial} program is recorded in a floppy disk and the like in the form of one still picture information. This information is rearranged in the desired order while reading it out at the time of making the program. The picture on-air control system is controlled with the rearranged information.

In this type of programming apparatus it generally takes approximately 0.4 sec to reproduce the still picture of one field, and a time interval of 1.6 sec is required for the case of color picture consisting of four fields in

one unit of color frame. Thus, an extremely large amount of time is required to find out the desired pictures. Alternatively, a method of selecting the desired picture information through an index in the form of a document is conceivable, but it is impossible to express the contents of the picture completely by use of the document and it also takes a lot of time to fabricate such index as mentioned above.

A picture display system was proposed by same assignee of this invention in US patent application under serial No.437,317, in which the problems ^{mentioned} ~~mentioned~~ above are settled. In the picture display system, a plurality of still pictures ^{is} ~~are~~ recorded in a recording member. The recording member has index tracks for storing a series of information representative of a plurality of squeezed still pictures corresponding to the original still pictures, and an index screen is formed on which a group of squeezed still pictures is ^{displayed} ~~displayed~~ in multiple segmented areas ^{prepared} ~~prepared~~ on the screen with accompanied by reference numerals.

By using this type of index screen, program ^{arrangement} ~~arrangement~~ tasks can drastically be simplified. In short, the contents of the plurality of still pictures can be observed at a glance by looking into the index screen without requiring to reproduce and display them one by one. In addition, a program advancing schedule can be completed by selecting the pictures on the index screen in the desired order.

Besides it will be possible to know the schedule of programs through the index screen. In short, the scheduled programs can be displayed on the index screen with an arrangement of squeezed picture elements. The ^{programmed} ~~programmed~~ index screen can be formed by selecting the squeezed pictures in order

of program, storing the selected picture information in a picture memory one after another and then reading out the ~~programmed~~ ^{programmed} information. In this case, alteration or rearrangement of program requires replacement or insertion of the squeezed pictures on the index screen indicating an arrangement in accordance with a certain schedule.

Generally, the selection, replacement and insertion of the squeezed pictures on the index screen are achieved through a key input unit including ten~~keys~~ for data input and function keys such as "Insert" key, "Change" key or "Execution" key for operation command.

The key input operation is very troublesome when the alteration or rearrangement of program is requested during on-air of the program. And the key input operation is apt ^{to} ~~et~~ cause errors, resulting in on-air accidents.

SUMMARY OF THE INVENTION

It is therefore a primary object of the present invention to settle such drawbacks as mentioned above, that is, to accomplish quick selection of the desired pictures from a plurality of squeezed still pictures on the index screen.

Another object of the present invention is to accomplish simple and accurate insertion of the selected pictures into the desired positions between the still pictures arranged on the index screen.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, its construction and mode of operation, reference is made to the following description of preferred embodiments and the appended drawings in which:

Fig. 1 shows a block diagram of a picture processing apparatus in accordance with the present invention;

Fig. 2 shows a front view of an index screen used for explaining quick selection of the desired pictures;

Figs. 3 and 4 show views similar to Fig. 2 and used for explaining simple and accurate insertion of the desired pictures; and

Fig. 5 shows a plane view of a X-Y coordinate input device to be mounted on a screen.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to Fig. 1 wherein a block diagram of the picture processing apparatus in accordance with the present invention is illustrated, an input video signal a is converted into a series of digital signals, and the still picture information of one color frame is written into a picture memory 2. The outputs read out of the memory 2 are supplied to a disk type recording/reproducing apparatus 3 and then recorded therein. By repeating this recording operation, picture information corresponding to a plurality of still pictures can be recorded to the disk. The speed for reading the picture memory 2 is modified so as to match the speed of rotation of the disk.

The outputs of the picture memory 2 are also provided to a "squeezer" 4. The squeezer 4 has a specific function to reduce or "squeeze" the picture size to one-fourth the original and is so constructed that three scanning lines are thinned out of four scanning lines and three sampling points on the scanning line are thinned out of four sampling points at the time of analog/digital conversion, for example. The outputs of the squeezer 4 are fed to the disk type recording/reproducing apparatus 3 and recorded in a predetermined part, that is, tracks assigned for index recording.

In reproduction operation, the outputs reproduced from the index track in the disk type recording/reproducing apparatus 3 are first supplied to an index memory 5, and recorded therein as information for one index screen. The outputs of the index memory 5 are then delivered to a D/A converter 7 through a changeover device 6 and converted therein to analog picture signals. The outputs of the D/A converter 7 are applied to a monitor television (TV) and then displayed on a screen thereof.

As clearly indicated in Fig. 2, the screen 12 of the monitor TV is divided into a plurality of ^{segments} segments (in this example, 16 segments) and each of the squeezed still pictures is displayed on each of the segments (1 to 16). To the respective segments, the reference numerals 1 to 16 are assigned by superimposing them on the pictures, or by noting down them on a transparent plate located in front of the screen. In this example, the screen 12 including a group of squeezed still pictures and reference numerals will be used as an index screen.

Like these, the required information can be selected

by looking into the index screen 12 of Fig. 2. The selected still picture information will be reproduced by giving instructions representative of the index reference numerals to the disk type recording/reproducing apparatus 3, which can access in a random manner to any one of required track. The reproduced signals will be recorded in the picture memory 8. As previously described, the outputs of the picture memory 8 will be fed to the monitor TV via the changeover device 6 and the D/A converter 7, and displayed on the screen ¹² thereof as a selected still picture.

In this paragraph, the selection of the desired still pictures by utilization of the index screen 12 illustrated in Fig. 2 will be concretely explained. The index reference data representing ^a respective squeezed picture can be ~~detected~~ ^{detected} by means of a light pen 10. The information corresponding to the desired index number is detected through a detecting circuit 9 ^{by} directing the light pen 10 onto one of squeezed still pictures to be selected.

The output of the detecting circuit 9 is provided to the disk type recording/reproducing apparatus 3. A selected still picture information is reproduced therefrom, and then recorded in the picture memory 8. The outputs of the picture memory 8 are provided to the monitor TV through the changeover device 6 and the D/A converter 7 and displayed on the screen ~~thereof~~ ^{thereof} as a selected still picture pattern.

Next, the selection, replacement and insertion operation for squeezed index pictures in the case where a second index screen 14 shown in Fig. 3 is utilized instead of the first index screen 12 will be explained. As clearly indicated in Fig. 3, the second index screen 14 is provided

with intermediate regions 13 between the respective segments. The intermediate regions 13 can be represented by gate signals produced on the basis of horizontal and vertical sync signals and detected depending on the gate signals at a time when the intermediate regions 13 are designated by means of the light pen 10.

In making a desired schedule of TV programs, the operator reads out index pictures from the apparatus 3 just as mentioned before and then selects the pictures ~~displayed~~ ^{displayed} on the index screen 14 in the desired order by means of the light pen 10 to obtain a series of picture selection information. The output of the index number detecting circuit 9 is fed to a memory replacement control circuit 11 in response to the key input signals selected on a ~~key board~~ ^{keyboard} (not shown). The squeezed picture information selected through this step are transferred to the picture memory 8 in the selected order. At the same time, the index reference numbers corresponding to the selected pictures are stored in a schedule memory portion of the index memory 5 in the designated order.

When a series of schedules have been completed, the contents of the picture memory 8 are transferred back to the index memory 5 through the manipulation of an "End" key on the ~~key board~~ ^{keyboard}. The contents of the index memory are displayed on the monitor screen through the changeover device 6 and the D/A converter 7 and the scheduled program sequence 1, 2, 3 can be observed on the so called multi-screen 14 shown in Fig. 3.

The sequence of the programs is replaceable by instructing the pictures on the multi-screen by means of the light pen. For example, when the sequence of programs

represented by the squeezed pictures 6, 7 is to be replaced, the operator designates the screen segments 6 and 7 by means of the light pen 10 and manipulates a "Change" key on the ~~keyboard~~ ^{Manipulator}. As the result, the memory replacement control circuit 11 is operated so that the squeezed picture information corresponding to regions 6, 7 in the index memory 5 is mutually replaced, and at the same time, the index reference numerals written in the schedule memory portion within the index memory 5 are mutually replaced.

Next, the operation for inserting another program into between the already-scheduled ^{unscheduled} programs will be explained in detail in connection with ordinal methods.

As one typical method, it is assumed that the squeezed picture 5 is to be inserted into between the squeezed pictures 1 and 2, for example. The operator first designates the picture 1 and then the picture 5 by use of the light pen 10, and thereafter ^{Manipulator} manipulates an "Insert" key on the ~~key~~ ^{Keyboard} board. The memory replacement control circuit 11 is ^{thereby} ~~thereby~~ operated just as similar to the ^{above-mentioned} ~~above-mentioned~~ replacement operation. As the result, the picture 5 is inserted between the pictures 1 and 2, and the pictures 2, 3 and 4 are shifted by one segment in order, respectively. This insertion process, however, is liable to lead to error, because when the operator wishes to insert the picture 5 before the picture 2, he may erroneously designate the pictures 2 and 5 in this order by use of the light pen 10 and ^{thereafter} ~~thereafter~~ manipulates the "Insert" key, without ^{following} ~~operating~~ the correct ^{steps} ~~processes~~, 1 → 5 → "Insert" key. This operation ~~steps~~ results in the mistaken rearrangement; 1, 2, 5, 3 and 4.

To prevent such erroneous operation as this, in

this embodiment, the intermediate region 13 is provided between the respective segments on the index screen, as indicated by the hatched region in Fig. 3. As described previously, this intermediate region 13 can be represented by the gate signals produced based on the horizontal and vertical sync signals, and it can be detected on the basis of the gate signal obtained when the operator designates the intermediate region 13 by use of the light pen 10.

Now it is assumed that the picture 5 is to be inserted into between the pictures 1 and 2 by utilization of the intermediate region 13. In this case, the operator first designates the picture 5 and then the intermediate region 13 located between the pictures 1 and 2, and thereafter manipulates the "Insert" key on the ~~key-board~~ ^{keyboard}. The respective outputs ~~of~~ ^{of} the index number detecting circuit 9 and the "Insert" key are ~~thereby~~ ^{thereby} fed to the memory replacement control circuit 11, and the insert operation for the squeezed pictures and the reference numerals is carried out. As the result, such a rearranged program as shown on the monitor screen 14 in Fig. 4 is obtained. As clearly understood from the foregoing, the aforesaid insertion process is ~~extremely~~ ^{extremely} simple and any erroneous operation can be avoided.

~~As~~ ^{the} X-Y coordinate input device may be used as well instead of the light pen 10. This input device may be a ~~conventional~~ ^{conventional} one which is formed by arranging transparent electro-conductive films and the like in the form of a key switch train 17 in a form of matrix as indicated in Fig. 5. The necessary pictures can be selected by disposing the transparent input device over the monitor screen so as to touch it directly, and manipulating some of ~~the~~ ^{the} coordinate keys

corresponding to the squeezed index pictures on the monitor

screen
sense.

In addition, if a key switch train 15 corresponding to the intermediate region 13 of Fig. 3 is arranged between the key switch trains 17 located on the respective picture segments as shown in Fig. 5, they can be used at the time of insertion operation. Since the insertion operation is just similar to the case of the light pen, the operator first selects the pictures to be inserted by use of the key switch train 17, and then manipulates the key switch train 15 showing the position for insertion.

As clearly understood from the foregoing, the picture processing apparatus of this invention is so constructed that the squeezed still pictures can be displayed on one screen divided into a *plurality* of segmented areas, and each segment and the intermediate region between the segments can be selected on the screen. Rearrangement operation of the multiple segmented screen, such as insertion operation, can be easily achieved without errors, by designating one of segments and one of intermediate regions.

This invention having been described in its preferred embodiments, it is clear that numerous modification and changes may be made by those skilled in the art without departing from the broader scope and *spirit* of the invention.

WHAT IS CLAIMED IS:

1. 1. 2 1. A picture processing system comprising a recording member in which a plurality of still picture informations is recorded and a monitoring means for reproducing one of said still picture information and displaying the still picture on a screen, said recording member having an index recording portion in which a series of picture information representative of a plurality of squeezed still pictures each corresponding to each of said original still pictures is recorded, and said monitoring means comprising; memory means for storing reproduced squeezed still picture information, a group of said squeezed still pictures being displayed on the basis of the output of said memory means in multiple segmented areas formed on said screen as an index picture information; selecting means for designating one of said multiple segmented areas on said screen to select one of said squeezed still pictures; and memory control means for rearranging the contents of said memory on the basis of the output of said selecting means to rearrange said index picture information.

2. A picture processing system according to claim 1, wherein said selecting means comprises a light pen and a detecting circuit for detecting the position of said segmented areas designated by said light pen on the basis of horizontal and vertical sync signals for said ~~screen~~ *screen*.

3. A picture processing system according to claim 1, wherein said selecting means comprises a transparent key board unit provided on said screen, said key board unit

comprising a matrix of keys each ^{key} corresponding to ^{one} each of
said segmented areas.

Sub 3. A picture processing system according to claim
2, wherein said detecting circuit comprises means for detecting
intermediate regions respectively provided between two adjacent
said segmented areas on said screen, and said memory control
means receives a detecting signal corresponding to one of
said intermediate regions for rearranging the contents of
said memory so that one of selected squeezed pictures is
interposed between selected two adjacent squeezed pictures
which are appointed by designating one of said intermediate
regions.

5. A picture processing system according to claim
3, wherein said transparent key board unit further comprising
another matrix of keys each corresponding to each of intermediate
regions respectively provided between two adjacent said segmented
areas, and said memory control means receives the output
of one of said another matrix of keys corresponding to one
of said intermediate regions for rearranging the contents
of said memory so that one of selected squeezed pictures
is interposed between selected two adjacent squeezed pictures
which are appointed by designating one of said intermediate
regions.

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PICTURE PROCESSING SYSTEM

ABSTRACT OF THE DISCLOSURE

A picture processing system for displaying a plurality of still pictures recorded in a recording member. The recording member has index tracks for storing a series of information representative of a plurality of ~~squeezed~~ ^{squeezed} still pictures corresponding to the original still pictures. A group of ~~squeezed~~ ^{squeezed} still pictures is ~~displayed~~ ^{displayed} in multiple segmented areas formed on ~~a~~ ^{an} index screen with accompanied by reference numerals. A light pen and a sensing circuit is provided for rearranging the index screen. The light pen detects the position of said segmented areas and intermediate regions respectively provided between two adjacent areas for processing the rearrangement.

AX203783

COMBINED DECLARATION AND POWER OF ATTORNEY
IN ORIGINAL APPLICATION

ATTORNEY DOCKET NO.

As a below named inventor, I hereby declare that:

my residence, post office address and citizenship are as stated below next to my name; that

I verily believe that I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the invention entitled: PICTURE PROCESSING

SYSTEM

described and claimed in the attached specification, that I understand the content of the attached specification, that I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to this application, that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows: Japanese Patent Application No. 2531/1982, filed on

January 11, 1982; and Japanese Patent Application No. 6971/1982, filed on January 20,I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: Norman L. Norris, Esq. 1982Registration No. 24,196

of the firm of WOODCOCK WASHBURN KURTZ MACKIEWICZ & NORRIS, 1800 United Engineers Building, 30 South 17th Street, Philadelphia, Pa. 19103.

Address all telephone calls to Norman L. Norris telephone no. (215) 568-3100Address all correspondence to Norman L. Norris
WOODCOCK WASHBURN KURTZ MACKIEWICZ & NORRIS

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF SOLE OR FIRST INVENTOR <u>Kenji Harada</u>	INVENTOR'S SIGNATURE <u>Kenji Harada</u>	DATE <u>December 6, 1982</u>
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RESIDENCE <u>Tokyo, Japan</u>	CITIZENSHIP <u>Japanese</u>	
POST OFFICE ADDRESS <u>4-1-5-307, Shimomeguro, Meguro-ku, Tokyo, Japan</u>		

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455115
Fi TS-25/F2919

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re application of Zenji Harada, Osamu Teraoka and
Tsuneo Mikado

For: PICTURE PROCESSING SYSTEM

ASSOCIATE POWER OF ATTORNEY

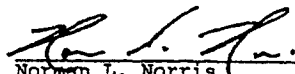
Hon. Commissioner of Patents & Trademarks
Washington, D.C. 20231

Dear Sir:

The undersigned, Norman L. Norris, Registration No.
24,196, of the firm of Woodcock Washburn Kurtz Mackiewicz &
Norris, 1800 United Engineers Building, 30 South 17th Street,
Philadelphia, Pennsylvania 19103, attorney for applicant(s)
hereby appoints the following:

ROBERT B. WASHBURN	Registration No. 16,574
RICHARD E. KURTZ	Registration No. 19,263
JOHN J. MACKIEWICZ	Registration No. 19,709
ALBERT W. PRESTON, JR.	Registration No. 25,366
DALE M. HEIST	Registration No. 28,425
JOHN W. CALDWELL	Registration No. 28,937
MICHAEL M. DE ANGELI	Registration No. 27,869
PHILIP S. JOHNSON	Registration No. 27,200
ROSEMARY M. MIANO	Registration No. 29,674
JOHN JAMIESON, JR.	Registration No. 29,546

his associates with full power to prosecute the above-identified
application, to transact all business in the Patent Office
connected therewith and requests that correspondence continue
to be directed to the firm of Woodcock Washburn Kurtz Mackiewicz
& Norris at the above address.


Norman L. Norris
Registration No. 24,196
Attorney for Applicant(s)

Dated 12/29/82

AX203785

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RECORDED #
AUG 23 1983 3
GROUP 250

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

HARADA, TERAOKA & MIKADO

Serial No.: 455,115

Group Art Unit: 234

Filed: January 3, 1983

Examiner:

For: PICTURE PROCESSING SYSTEM

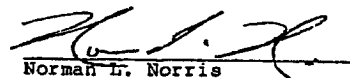
Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

CLAIM FOR PRIORITY

Applicants hereby claim priority based on Japanese Patent Application No. 57-6971, filed January 20, 1982 and Japanese Patent Application No. 57-2531, filed January 11, 1982, referred to in the Japanese Language Declaration for Original Application, and a certified copy of which is attached hereto.

Please enter these claims for priority in the file of this application with the certified copies of the Japanese applications upon which they are based.

Respectfully submitted,


Norman L. Norris
Registration No. 24,196

Date: 8/18/83

NLN:dt

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AX203786



(TRANSLATION)
PATENT OFFICE
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application as filed with this Office.

Date of Application : January 11, 1982
Application Number : Patent Application No. 2531/1982
Applicant : KANSAI TELECASTING CORPORATION
NIPPON TELEVISION INDUSTRY CORPORATION

June 3, 1983

Director-General, Kazuo Wakasugi
Patent Office

(Director-General, Patent Office)

Certified No. 15084/1983

AX203787

(¥6,300.-)

PATENT APPLICATION

January 11, 1982

To Director-General of Patent Office, Haruki Shimada

1. Title of the Invention: A Picture Generating System
2. Inventor(s) : 2-25-2, Uguisudai, Kawanishi-shi,
Hyogo-ken
Zenji Harada (two others)
3. Applicant(s) : 5-17 Nishitenma 6-chome, Kita-ku,
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Representative: Okikazu Yamaguchi
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4. Agent(s) : Eiwa Building, 9-18 Nishishinjuku
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(KEY NUMBER)
(8731) Attorney: Yoshio Tsunekane
5. List of Attached Documents:
 - (1) Specification 1
 - (2) Drawings 1
 - (3) Copy of petition 1
 - (4) Power of Attorney 2
 - (5) Written Request for Examination 1
6. Other Inventor(s), Applicant(s) :
 - (1) Inventor(s): 13-7 Akasakada 5-chome, Sakai-shi,
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Osamu Teraoka
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Tsuneo Mikado
 - (2) Applicant(s): 1-26-2-302, Nishigotanda,
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NIPPON TELEVISION INDUSTRY
CORPORATION
Representative: Tsuneo Mikado

AX203788



本 国 特 許 庁
PATENT OFFICE
JAPANESE GOVERNMENT

付の書類は下記の出願書類の謄本に相違ないことを証明する。
is to certify that the annexed is a true copy of the following application as filed
Office.

年月日
Application: 1982年1月11日

番 号
Application Number: 昭和57年特許願第2531号

人
(s): 関西テレビ放送株式会社
日本テレビジョン工業株式会社

AX203789

1982年 月 3 日

特許庁長官
Director-General,
Patent Office

若杉和夫



出証明 58-15084



(3,400円)
(6,300円)

特 許 願

昭和57年1月11日

特許庁長官 島田春樹 殿

1. 発 明 の 名 称 ^{フリガナ} ^{ソウ レンゾリヨクソウ テ}
画 像 出 力 装 置

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氏 名 (8731) 弁理士 常 包 芳 男

5. 添付書類の目録

(1) 明 細 書 1通

(2) 図 面 1通

(3) 願 書 副 本 1通

(4) 委 任 状 2通

(5) 出願審査請求書 1通

AX203790

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^{ナダロク} ^{シモ} ^{ノダロ}
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代表者 ^ミ三 ^{カド}門 ^{ツネ}恒 ^オ夫

AX203791

明 細 書

1. 発明の名称

画像出力装置

2. 特許請求の範囲

複数の静止画像が記録された記録媒体を備える画像出力装置において、上記複数の静止画像の夫々が縮小された状態で1画面を複数の細分化した各領域においてインデックスと表示されるために、縮小静止画情報が上記記録媒体に記録されていると共に、上記インデックスが表示された画面の各領域を画面上において選択し得る選択手段が設けられ、この選択手段の出力に基いて所要の静止画像を上記記録媒体から再生するようにした画像出力装置。

3. 発明の詳細な説明

本発明は、複数の静止画像を記録した記録媒体を用いて画像情報を出力するようにした画像出力装置に関する。

従来より、ディスク状記録媒体に複数枚（例えば100枚程度）の静止画像をデジタル情報で

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記録しておき、これらを再生してモニターに表示させる装置が知られている。このような画像出力装置では、1フィールド分の静止画像を再生するのに約0.4秒かかり、4フィールドを一単位とするカラー画像の場合1.6秒かかる。従つて、必要な絵を捜し出すのに極めて多大な時間を必要とする。文書によるインデックスを付けて必要な画像情報を選択することも考えられるが、文書で絵の内容を完全に表現することができず、またインデックス製作に多くの時間を必要とする。

本発明は上述の問題を解消するものであつて、複数の静止画像の夫々が縮小された状態で1画面を複数に細分化した各領域においてインデックスと表示されるために、縮小静止画情報を対応する静止画情報と共に記録媒体に記録すると共に、上記インデックスが表示された画面の各領域画面上において選択し得る選択手段（ライトペンや透明なX-Y座標入力キー等）を設け、この選択手段の出力に基いて所要の静止画像を上記記録媒体から再生するようにしたものである。このように構

成することにより、複数の画像の内容を一目瞭然に見ることができ、しかも画面上において必要な情報を迅速に選択できるようにしている。

以下本発明の実施例を図面を参照して説明する。

第1図は本発明による画像表示装置のブロック図である。

入力の映像信号 a は A/D 変換器 (1) によつてデジタル信号に変換され、1枚分の静止画情報が画像メモリー (2) に書込まれる。メモリー (2) の読出し出力は、ディスク記録再生機 (3) に供給され、記録される。この記録動作を繰り返すことにより、複数枚の静止画像情報がディスクに記録される。なお画像メモリー (2) の読出し速度はディスクの回転速度に合うように変更されている。

画像メモリー (2) の出力は、縮小装置 (4) にも与えられる。この縮小装置 (4) は、画像を $1/4$ に縮小する機能を有し、例えば走査線の4本中の3本を間引き且つ走査線上の A/D 変換時のサンプリング点の4個中の3個を間引くように構成されている。縮小装置 (4) の出力はディスク記録再生機 (3) に

送られ、その所定部分、すなわちインデックス記録のための領域に記録される。

再生時には、まずディスク記録再生機(3)のインデックス記録領域の再生出力がインデックスメモリー(5)に送られ、1枚のインデックス画面情報が記憶される。インデックスメモリー(5)の出力は切換器(6)を介してD/A変換器(7)に送られ、ここでアナログ映像信号に変換されてからモニターTVに送られる。

この結果、モニターTVの画面(9)には、第2図の画面正面図に示すように複数(例えば16)に分割された各インデックス領域(1~16)に縮小された静止画が表示される。また各インデックス領域は、参照番号(1~16)が映像に重畳して、または画面上の透明板に書かれて表示される。

このようにして第2図のインデックス画面(9)を見ることによつて必要な情報の選択を行うことができる。必要な静止画像情報は、ディスク記録再生機(3)にインデックス参照番号を指示することにより再生され、画像メモリー(8)に記憶される。

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インデックス参照番号はライトペンでもつて自動検出することができる。すなわち、第2図のようにライトペン10を目標の縮小画像面に当てがうことにより、対応するインデックス番号の情報が、第1図のインデックス参照番号検出回路11において検出される。インデックス参照番号検出回路11では、~~検出されたインデックス参照番号検出回路~~ 11では、検出されたインデックス参照番号(1～16)と、インデックスメモリー(5)から得られる複数枚のインデックス画面に対応した画面記号A～Gとが組み合わされ、例えば16×7個の画像選択情報が形成される。

14 字検出

4 字検出

この画像選択情報はディスク記録再生機(3)に与えられ、必要な静止画情報が再生されて画像メモリーに記憶される。画像メモリー(8)の出力は切換器(6)及びD/A変換器(7)を介してモニターT.Vに与えられ、選択された静止画像が表示される。なおライトペン10の外にX-Y座標入力装置を用いることができる。この入力装置は、透明な導電性フィルム等を用いて第2図のようなマトリツ

クス状のキースイッチ列を形成した周知のものであつてよい。この座標入力装置をモニター画面に前面に密着して配置し、モニター画面上の縮小インデックス画像に対応した座標キーを操作することにより、必要な画像を選択することができる。

本発明は上述の如く、複数枚の静止画像を縮小したものを同時に記録しておき、複数に分割された1枚のインデックス画面に表示するようにしたから、静止画像を一つ再生して表示させなくても、複数の画像内容をインデックス画面によつて同時に知ることができ、必要な静止画情報を迅速に探し出すことができる。またインデックス画面上において必要な静止画情報を選択して再生させることができるから、誤りなく必要な静止画像を得ることができる。

4. 図面の簡単な説明

第1図は本発明の一実施例を示す画像表示装置のブロック図、第2図はインデックス画面の正面図である。

なお図面に用いた符号において、

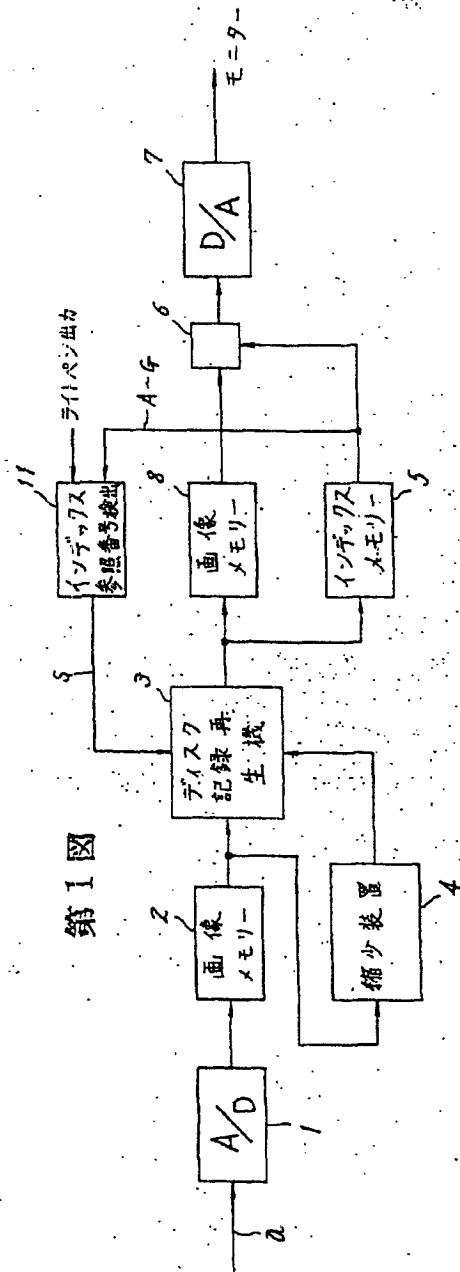
- (3) ディスク記録再生機
- (4) 縮小装置
- (5) インデックスメモリー
- (6) ライトペン

である。

代 理 人 常 包 芳 男

AX203798

(7)



第2図

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

AX203799



(TRANSLATION)
PATENT OFFICE
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application as filed with this Office.

Date of Application	: January 20, 1982
Application Number	: Patent Application No. 6971/1982
Applicant	: KANSAI TELECASTING CORPORATION NIPPON TELEVISION INDUSTRY CORPORATION

June 3, 1983

Director-General, Kazuo Wakasugi
Patent Office

(Director-General, Patent Office)

Certified No. 15085/1983

AX203800

(¥6,300.-)

PATENT APPLICATION

January 20, 1982

To Director-General of Patent Office, Haruki Shimada

1. Title of the Invention: A Picture Processing System
2. Inventor(s) : 2-25-2, Uguisudai, Kawanishi-shi,
Hyogo-ken
Zenji Harada (two others)
3. Applicant(s) : 5-17 Nishitenma 6-chome, Kita-ku,
Osaka-shi, Osaka
KANSAI TELECASTING CORPORATION
Representative: Okikazu Yamaguchi
(one other)
4. Agent(s) : Eiwa Building, 9-18 Nishishinjuku
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(KEY NUMBER)
(8731) Attorney: Yoshio Tsunekane

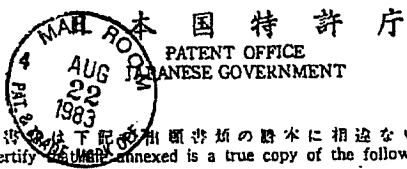
5. List of Attached Documents:

- | | |
|-------------------------------------|---|
| (1) Specification | 1 |
| (2) Drawings | 1 |
| (3) Copy of petition | 1 |
| (4) Power of Attorney | 2 |
| (5) Written Request for Examination | 1 |

6. Other Inventor(s), Applicant(s) :

- (1) Inventor(s): 13-7 Akasakadai 5-chome, Sakai-shi,
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AX203801



付の書は下記の特許願書類の謄本に相違ないことを証明する。
to certify that the annexed is a true copy of the following application as filed with the Office.

年 月 日
Application: 1982年1月20日

番 号
Application Number: 昭和57年特許願第6971号

願 人
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日本テレビジョン工業株式会社

AX203802

1982年 月 3 日

特許庁長官
Director-General,
Patent Office

若杉和夫

出証略 58-15085



特 許 願

特許庁
(6,300円)

昭和 57 年 1 月 20 日

8字訂正

特許庁長官 島 田 春 樹 殿

1. 発 明 の 名 称 ^{フリガナ} ^{カタカナ} ^{ローマ字}
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5. 添 付 書 類 の 目 録
(1) 明 細 書 1 通 (2) 図 面 1 通
(3) 願 書 副 本 1 通 (4) 委 任 状 2 通
(5) 出 願 審 査 請 求 書 1 通

AX203803

1字訂正

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代表者 ミ カド ツネ オ
三 門 恒 夫

AX203804

明 細 書

1. 発明の名称

画像処理装置

2. 特許請求の範囲

1 画面を複数に細分化した各領域において静止画像を表示させるための画像情報を記憶するメモリーと、上記各領域及び隣接する領域の各中間部を夫々画面上において選択し得る選択手段と、上記選択手段によつて1つの領域及び1つの上記中間部を選択することにより、選択された画像情報が選択された中間部の両側の領域の画像情報の間に挿入されるように、上記メモリー内の画像情報の領域ごとの配列を並び換えるメモリー制御手段とを夫々具備する画像処理装置。 2 字

3. 発明の詳細な説明

本発明は、複数の静止画像を1画面内で表示するようにした画像処理装置に関する。

従来より、ディスク状記録媒体に複数枚（例えば100枚程度）の静止画像をデジタル情報で記録しておき、これらを再生してモニターに表示

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させる装置が知られている。このような装置は、例えばTV局において、複数のVTRを用いて予めプログラムされた順序で番組を自動的に進行させるようにした画像送出制御装置のプログラミング装置に用いられる。このプログラミング装置では、1つの番組若しくはコマーシャル等の内容を代表させた映像情報または文字情報を1枚の静止画情報の形でフロッピーディスク等に記録しておき、プログラム作成時にこれを読み出しながら、所要の順序で配列し、この配列情報をもつて画像送出制御装置をコントロールするように構成されている。

このようなプログラミング装置では、1フィールド分の静止画像を再生するのに約0.4秒かかり、4フィールドを一単位とするカラー画像の場合1.6秒かかる。従つて、必要な絵を捜し出すのに極めて多大な時間を必要とする。文書によるインデックスを付けて必要な画像情報を選択することも考えられるが、文書で絵の内容を完全に表現することができず、またインデックス製作に多くの

時間を必要とする。

この問題を解決するために、本出願人は、複数枚の静止画情報が縮小された状態で1画面を複数に細分化した各領域においてインデックスとして表示される様にし、このインデックスが表示された画面の各領域を画面上において任意に選択し得るようにした画像出力装置を提案している。

このようなインデックス画面を用いると、番組配列作業が極めて簡略化される。すなわち、静止画像を一々再生して表示させなくても、インデックス画面を見ることにより、複数の画像内容を一目瞭然に見ることができる。またインデックス画面上で任意の画像を所要の順序で選択することにより、番組進行プログラムを完成させることができる。

また番組進行の設定順序をインデックス画面で知ることができる。すなわち、選択した縮小画像情報を順に画像メモリーに蓄込み、これを再生すれば、設定したプログラムが縮小画面の配列の形でインデックス画面に表示される。この場合、プ

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AX203807

プログラムに従つて配列されたインデックス画面の各縮少画像の順序を入れ換えたり、或いは間挿したりする必要が生ずる。

本発明は上述の間挿操作を誤りなく且つ簡単に行い得るようにすることを目的とするものである。

以下本発明の実施例を図面を参照して説明する。

第1図は本発明による画像処理装置のブロック図である。

入力の映像信号 a はA/D変換器(1)によつてデジタル信号に変換され、1枚分の静止画情報が画像メモリー(2)に書込まれる。メモリー(2)の脱出し出力は、ディスク記録再生機(3)に供給され、記録される。この記録動作を繰り返すことにより、複数枚の静止画像情報がディスクに記録される。なお画像メモリー(2)の脱出し速度はディスクの回転速度に合うように変更されている。

画像メモリー(2)の出力は、縮少装置(4)にも与えられる。この縮少装置(4)は、画像を $1/4$ に縮少する機能を有し、例えば走査線の4本中の3本を間引き且つ走査線上のA/D変換時のサンプリング

(4)

AX203808

点の4個中の3個を間引くように構成されている。縮小装置(4)の出力はディスク記録再生機(3)に送られ、その所定部分、すなわちインデックス記録のための領域に記録される。

再生時には、まずディスク記録再生機(3)のインデックス記録領域の再生出力がインデックスメモリー(5)に送られ、1枚のインデックス画面情報が記憶される。インデックスメモリー(5)の出力は切換器(6)を介してD/A変換器(7)に送られ、ここでアナログ映像信号に変換されてからモニターTVに送られる。

この結果、モニターTVの画面(8)には、第2図の画面正面図に示すように複数(例えば16)に分割された各インデックス領域(1~16)に縮小された静止画が表示される。また各インデックス領域は、参照番号(1~16)が映像に重畳して、または画面上の透明板に書かれて表示される。

このようにして第2図のインデックス画面(8)を見ることによつて必要な情報の選択を行うことができる。必要な静止画像情報は、ディスク記録再

(5)

AX203809

生機(3)にインデックス参照番号を指示することにより再生され、画像メモリー(8)に記憶される。

インデックス参照番号はライトペンでもつて自動検出することができる。すなわち、第2図のようにライトペン(4)を目標の縮小画像面に当てがうことにより、対応するインデックス参照番号の情報、第1図のライトペン位置検出器(9)において検出される。この位置検出器(9)の出力は画像選択情報としてディスク記録再生機(3)に与えられ、必要な静止画情報が再生されて画像メモリーに記憶される。画像メモリー(8)の出力は切換器(6)及びD/A変換器(7)を介してモニターTVに与えられ、選択された静止画像が表示される。

番組進行のプログラムを作成する際には、上述と同様にディスク記録再生機(3)からインデックス画像を読出し、ライトペン(4)でもつてインデックス画面上の必要な画像を順番に選択する。図外のキー入力部の選択キーの操作により、ライトペン位置検出器(9)の出力の画像選択情報はメモリー入換え制御回路(4)に送られ、この情報に基づいて選択

(6)

AX203810

された縮小画像情報が画像メモリー(8)に次々と転送される。これと共にインデックスメモリー(5)のプログラム記憶部には、選択された画像のインデックス参照番号がプログラムされた順番に記憶される。

一連の番組プログラムが完成すると、キー入力部の終了キーを操作することにより、画像メモリー(8)の内容がインデックスメモリー(5)に再び転送される。インデックスメモリー(5)の内容は切換器(6)及びD/A変換器(7)を介してモニター画面に表示される。これによつてプログラムされた番組順序1、2、3……を第2図のようなマルチ画面(12)で知ることができる。

このマルチ画面上の画像をライトペンで指示することにより番組順序を入れ換えることが可能である。例えば第2図の縮小画像6、7で代表された番組の順序を入れ換える場合、ライトペン(14)で画面領域6及び7を指示し、次にキー入力部においてチェンジキーを操作する。この結果、メモリー入換え制御回路(11)が動作し、インデックスメモ

(7)

AX203811

リー(5)の領域6、7に対応する縮小画像情報が相互に入れ換えられる。またこれと共に、インデックスメモリー(5)内のプログラム記憶部に書込まれているインデックス参照番号が相互に入れ換えられる。

次に番組と番組との間に別の番組を間挿する場合の操作について説明する。

一つの方法としては、例えば縮小画像1、2の間に画像5を間挿するとき、まずライトペン(10)で画像1を指示し、次いで5を指示し、更にキー入力部のインサートキーを操作する。この操作で、上述の交換と同じくメモリー入換え制御回路(11)が動作し、画像1と2との間に画像5が間挿され、第3図のモニター画面(12)に示すように画像2、3、4は順に1領域ずつシフトされる。

この操作は誤りを生じさせ易い。何故ならば、画像2の前に画像5を間挿したいと操作者が考えたとき、上記手順(1→5→インサートキー)を正しく操作せずに、ライトペン(10)で画像2を指示し、次に画像5を指示した後、インサートキーを

操作することがある。この間挿結果は、画像順序が 1、2、5、3、4 …… となつて操作ミスとなる。

このような誤りを防止するために、この実施例では、第 2 図の斜線領域で示すように、モニター画面上に各画像領域の中間の領域(13)を設けている。この中間領域(13)は、水平及び垂直同期信号に基づいて作成されるゲート信号で代表させることができ、この中間領域(13)をライトペン(10)で指示した場合、上記ゲート信号に基づいてこれを検出することができる。

画像 1 と 2 との間に画像 5 を間挿する場合には、ライトペン(10)で画像 5 を指示し、次いで画像 1 と 2 との中間領域(13)を指示し、更にキー入力部でインサートキーを操作する。これによつてライトペン位置検出器(9)及びキー入力部の夫々の出力がメモリー入換え制御回路(11)に送られ、縮小画像及びその参照番号の入換えが実行される。この結果、第 3 図のモニター画面(12)に表示されるような順序のプログラムを作成することができる。上述の間挿操作は極めて簡単であり、また誤操作すること

(9)

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も無い。

なおライトペン100の外にX-Y座標入力装置を用いることができる。この入力装置は、透明な導電性フィルム等を用いて第4図のような縮小画像領域に対応したマトリックス状のキースイッチ列104を形成した周知のものであつてよい。この座標入力装置をモニター画面に前面に密着して配置し、モニター画面上の縮小インデックス画像に対応した座標キーを操作することにより、必要な画像を選択することができる。

また第2図の中間領域102に対応するキースイッチ列104を第4図のように各画像領域上のキースイッチ列104の間に配置して、これらの間挿操作時に用いることができる。間挿操作はライトペンの場合と同じであつて、間挿すべき画像をキースイッチ列104で選択し、次に間挿場所を示すキースイッチ列104を操作する。

本発明は上述の如く、1画面を複数に細分化した各領域において静止画像を表示させ、各領域及び領域間の中間部を画面上において選択し、選択

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AX203814

された画像情報が選択された中間部の両側の領域
 の画像情報の間に挿入されるように静止画情報を
 記憶^{した}メモリーの領域ごとの配列を並び換えるよう
 にしたので、画像の間挿作業を簡単に且つ誤りな
 く行うことができる。

4. 図面の簡単な説明

第1図は本発明の一実施例を示す画像処理装置
 のブロック図、第2図及び第3図はモニター画面
 の正面図、第4図は画面上に取付けられたX-Y
 座標入力装置の平面図である。

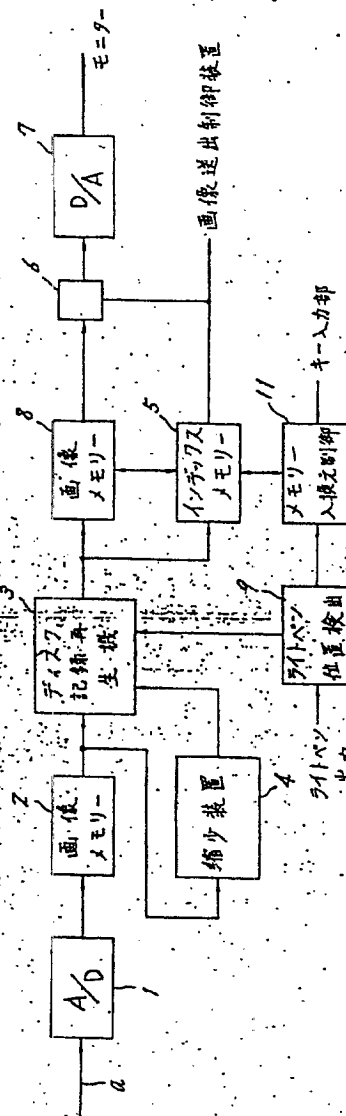
なお図面に用いられている符号において、

- (2) 画像メモリー
- (5) インデックスメモリー
- (9) ライトペン位置検出器
- (10) ライトペン
- (11) メモリー入換え制御回路

である。

代 理 人 常 包 芳 男

第1図



第2図

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

AX203816

第 3 图

1	5	2	3
4	6	7	8
9	10	11	12
13	14	15	16

第 4 图

①	②	③	④
⑤	⑥	⑦	⑧
⑨	⑩	⑪	⑫
⑬	⑭	⑮	⑯

AX203817

出願人代理人 常 包 芳 男


UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/155,115	01/03/83	HARADA	Z 15-257F271.7

 NORMAN L. NORRIS
 WOODCOCK, WASHBURN, KURTZ, MACKIEWICZ
 & NORRIS, 1800 UNITED ENGINEERS BLDG.
 30 SOUTH 17TH ST.
 PHILADELPHIA, PA 19103

EXAMINER	
BRIGANCE, G	
ART UNIT	PAPER NUMBER
264	4
DATE MAILED: 01/23/83	

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
 Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-692. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-5 are pending in the application.
 Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-5 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections **MUST** be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☒ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

AX203818

Serial No. 455,115

-2-

1. The disclosure is objected to because of the following informalities: Spelling and idiomatic errors occur throughout the application. For example, "squeezed" and "dêplayed" in the abstract and elsewhere and "prepaired" on page 2 were noted. Appropriate correction is required.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

In claim 1, line 2, "informations" is awkward. Lines 3 and 4 are awkward as well. In line 7, "squeezed still pictures" is not standard terminology and is therefore vague. In line 10, to what does "reproduced" refer? "Wtill" is misspelled. In line 16, how are these oontents "rearranged" responsive to a selection? This claim appears to be misdescriptive. While the "memory" referred to here is apparently the index memory, the rearranged memory is the picture memory. This must be clarified.

4. In claim 2, "scree" is misspelled. In claim 3, line 4, "each corresponding to each" is nonsensical.

5. Claim 4 is vague. The selection sequence is not at all clear. "Squeezed" and "akjarent" are misspelled.

6. In claim 5, line 2, "comprising" is awkward. The selection sequence is again not clear.

7. The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an enabling disclosure. This paragraph of the statute

AX203819

Serial No. 455,115

-3-

requires that the specification shall contain a written description of the invention and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. As previously mentioned, the term "squeezed" as applied to picture data is not a standard, therefore, the box 4 labeled "squeezer" is also not standard. Applicant has provided no circuitry or logic for this block which would enable one of ordinary skill in the art to make and use it. Block 9, the apparently mislabeled "Memory Meplacement Control" is also not disclosed in an enabling manner. It is still not clear just where the data rearranging takes place. Applicant is warned against the attempted addition of new matter in this regard.

9. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, for the reasons set forth in the objection to the specification.

10. The cited references are deemed pertinent to the claimed invention. Each provides a selection and/or prioritizing scheme for a multiple image display system.

11. Any inquiry concerning this communication should be directed to Gerald L. Brigance at telephone number 703-557-0452.

G. Brigance:sdd

1/9/85

703-557-0452

Gerald L. Brigance
GERALD L. BRIGANCE
PRIMARY EXAMINER
GROUP 264

AX203820

TO SEPARATE, HOLD TOP AND BOTTOM EDGES, SNAP-APART AND DISCARD CARBON

FORM PTO-892 (REV. 3-78)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. 485115		GROUP ART UNIT 264		ATTACHMENT TO PAPER NUMBER 4			
NOTICE OF REFERENCES CITED				APPLICANT(S) Haroda et al							
U.S. PATENT DOCUMENTS											
		DOCUMENT NO.				DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE	
A		40	70	710	1-24-78	Sukornick et al	340	721			
B		41	07	780	8-15-78	Grimsdale et al	340	721			
C		42	17	114	2-23-82	Walker	340	747			
D		43	95	707	7-26-83	Satropa	340	723		12-31-79	
E		44	84	192	11-20-84	Seitz et al	340	721		12-17-81	
F											
G											
H											
I											
J											
K											
FOREIGN PATENT DOCUMENTS											
		DOCUMENT NO.				DATE	COUNTRY	NAME	CLASS	SUB- CLASS	PERTINENT SHTS. PP. DWG. SPEC.
L											
M											
N											
O											
P											
Q											
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)											
R											
S											
T											
U											
								AX203821			
EXAMINER G. BRIBANCE						DATE 1/8/85					
* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05 (a).)											

TS-25/P-2919



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

ZENJI HARADA, OSAMU TERAOKA and TSUNEO MIKADO

Serial No.: 455,115 Group Art Unit: 264

Filed: January 3, 1983 Examiner: G.L. Brigance

For: PICTURE PROCESSING SYSTEM

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

I hereby certify that this correspondence is
being deposited with the United States Postal
Service as first class mail in an envelope
addressed to Commissioner of Patents and
Trademarks, Washington D.C. 20231 on 7-23-85

John Jamieson, Jr.

Attorney for Applicant(s)

Dear Sir:

7-23-85
Date

Signature
Registration No. 29,546

AMENDMENT

Please amend the application as follows.

IN THE ABSTRACT OF THE DISCLOSURE:

Lines 6 and 8, delete each occurrence of "spueezed" and
insert therefore --squeezed --.

Line 8, delete "desplayed" and insert therefore
--displayed--.

Line 9, delete "a" and insert therefore --an--.

IN THE SPECIFICATION:

Page 1, line 12, delete "arts" and insert therefore
--art--.

Page 1, line 18, delete "commertial" and insert therefore
--commercial--.

Page 2, line 10, delete "mentioned" and insert therefore
--mentioned--.

Page 2, line 11, insert --are-- before "recorded".

Page 2, line 16, delete "desplayed" and insert therefore
--displayed--.

Page 2, line 17, delete "prepaired" and insert therefore
--prepared--.

AX203822

TS-25/F-2919

Page 2, line 19, delete "arrangment" and insert therefore
--arrangement--.

Page 2, line 29, delete "programed" and insert therefore
--programmed--.

Page 3, line 3, delete "programed" and insert therefore
--programmed--.

Page 3, line 9, delete "ten-key" and insert therefore
--ten keys--.

Page 3, line 15, delete "ot" and insert therefore --to--.

Page 4, line 25, delete "picture" and insert therefore
--pictures--.

Page 5, line 3, insert quotations before and after
"squeezer".

Page 5, line 3, insert quotations before and after
"squeeze".

Page 5, line 8, delete "output" and insert therefore
--outputs--.

Page 5, line 10, insert the following sentences at the
end of the paragraph: --The squeezer 4 may also be referred to
hereinafter as the "picture reduction circuit". The one-sixteenth
size images generated from the output of the squeezer 4 shall be
referred to equivalently as "squeezed still pictures" or "reduced
still pictures".--

Page 5, line 11, delete "output" and insert therefore
--outputs--.

Page 5, line 15, delete "output" and insert therefore
--outputs--.

Page 5, line 21, delete "seguments" and insert therefore
-segments--.

Page 5, line 23, delete "segment" and insert therefore
--segments--.

AX203823

TS-25/P-2919

Page 5, line 23, delete "6" and insert therefore --16--.

Page 6, line 9, delete "9" and insert therefore --12--.

Page 6, line 14, insert --a-- before "respective".

Page 6, line 14, delete "detacted" and insert therefore
--detected--.

Page 6, line 17, insert --by-- before "directing".

Page 6, line 25, delete "therof" and insert therefore
--thereof--.

Page 7, line 9, delete "dispalyed" and insert therefore
--displayed--.

Page 7, line 14, delete "key board" and insert therefore
--keyboard--.

Page 7, line 16, delete "are" and insert therefore
--is--.

Page 7, line 23, delete "key board" and insert therefore
--keyboard--.

Page 8, line 4, delete "key board" and insert therefore
--keyboard--.

Page 8, line 12, delete "already-scheuled" and insert
therefore --already-scheduled--.

Page 8, line 14, delete "into".

Page 8, line 17, delete "mainpulates" and insert
therefore --manipulates--.

Page 8, lines 17 and 18, delete "key board" and insert
therefore --keyboard--.

Page 8, line 18, delete "therby" and insert therefore
--thereby--.

Page 8, line 19, delete "just as", and delete
"abovementioned" and insert therefore --above-mentioned--.

Page 8, line 25, delete "designates" and insert therefore
--designate--.

TS-25/F-2919

Page 8, line 26, delete "thereafter" and insert
therefore --thereafter--.

Page 8, line 26, delete "manipulates" and insert
therefore --manipulate--.

Page 8, line 27, delete "operating" and insert therefore
--following--.

Page 8, line 27, delete "processes;" and insert therefore
--steps:--.

Page 8, line 28, delete "steps".

Page 8, line 28, delete "result" and insert therefore
--results--.

Page 9, line 10, delete "into".

Page 9, line 14, delete "key board" and insert therefore
--keyboard--.

Page 9, line 14, insert --of-- after "outputs".

Page 9, line 15, delete "therby" and insert therefore
--thereby--.

Page 9, line 21, delete "extermely" and insert therefore
--extremely--.

Page 9, line 23, delete "A" and insert therefore --An--.

Page 9, line 25, delete "convention" and insert therefore
--conventional--.

Page 9, line 30, insert --the-- before "coordinate".

Page 10, line 2, delete "scree" and insert therefore
--screen--.

Page 10, line 15, delete "pluratility" and insert therefore
--plurality--.

Page 10, line 24, delete "spilit" and insert therefore
--spirit--.

AX203825

TS-25/F-2919

IN THE CLAIMS:

Please rewrite claim 1 as follows:

1. (Amended) A picture processing system comprising a recording member in which a plurality of still picture digital signals [informations] is recorded, each corresponding to a different still picture, and a monitoring means for reproducing one of said still picture digital signals [information] and displaying the corresponding still picture on a screen, said recording member having an index recording portion in which a second plurality of digital signals [series of picture information] representative of a plurality of squeezed still pictures each corresponding to each of said original still pictures] is recorded, each digital signal of the second plurality corresponding to a reduced still picture and one reduced still picture digital signal being provided for each still picture, and said monitoring means including: [comprising;] index memory means for storing [reproduced squeezed wtill] reduced still picture digital signals [information] reproduced from said recording member, a group of said reduced [squeezed] still pictures being displayed on the basis of the output of said index memory means in multiple segmented areas formed on said screen as an index picture [information]; selecting means for designating one of said multiple segmented areas on said screen to select one of said [squeezed] reduced still pictures; and memory control means for rearranging the contents of said index memory means on the basis of the output of said selecting means to rearrange said index picture [information].

Please amend claim 2 by deleting "scree" in line 5 and inserting therefore --screen--.

Please amend claim 3 by inserting --key-- before "corresponding" in line 4 and deleting the second occurrence of "each" and inserting therefore --one--.

TS-25/F-2919

Please rewrite claim 4 as follows:

4. (Amended) A picture processing system according to claim 2, wherein said detecting circuit comprises means for detecting intermediate regions respectively provided between [two] adjacent [said] segmented areas on said screen, and said memory control means receives a detecting signal corresponding to one of said intermediate regions for rearranging the contents of said index memory so that a selected one of [selected squeezed] said displayed reduced still pictures is interposed between [selected] two [akjacent squeezed] adjacent reduced pictures [which are appointed] by designating [one of said] an intermediate [regions] region between said two adjacent reduced pictures displayed on said screen.

(Please rewrite claim 5 as follows:)

5. (Amended) A picture processing system according to claim 3, wherein said transparent [key board] keyboard unit further comprises [comprising] another matrix of keys each key corresponding to each [of] intermediate [regions] region respectively provided between [two] each pair of adjacent [said] segmented areas, and said memory control means [recieves] receives the output of one of said another matrix of keys corresponding to one of said intermediate regions for rearranging the contents of said index memory so that a selected one of [selected] said displayed reduced [squeezed] pictures is interposed between [selected] two adjacent [squeezed] reduced pictures [which are appointed] by designating [one of said] an intermediate [regions] region between said two adjacent reduced pictures displayed on said screen.

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TS-25/F-2919

Please add the following new claims 6 through 11.

--6. A picture system comprising:

a recording member in which a plurality of still picture signals are recorded; and

a monitoring means for reproducing one of said recorded still picture signals for displaying said one still picture on a screen,

said recording member having an index recording portion in which a series of reduced picture signals representative of a plurality of reduced still pictures, each of which corresponds to each of said still pictures, is recorded,

a group of said reduced still pictures being selectively displayed in multiple segmented areas formed on said screen as an index to said still pictures, said monitoring means comprising selecting means of a type operative by directly pointing to the surface of said screen for designating one of said multiple segmented areas to select one of said reduced still pictures and said monitoring means having a random access reproduction function to reproduce one of designated still pictures in response to designation with said selecting means.--

--7. A picture processing system according to claim 6, wherein said selecting means comprises a light pen and a detecting circuit for detecting the position of said segmented areas designated by said light pen on the basis of horizontal and vertical sync signals for said screen.--

--8. A picture comprising system according to claim 6, wherein said selecting means comprises a transparent keyboard unit provided on said screen, said keyboard unit comprising a matrix of keys corresponding to said segmented areas.--

AX203828

TS-25/P-2919

--9. A picture processing system according to claim 7, wherein said detecting circuit further comprises means for detecting intermediate regions respectively provided between two adjacent segmented areas on said screen, a detecting output thereof being utilized to rearrange the arrangement of said reduced still pictures on said screen.--

--10. A picture processing system according to claim 3, wherein said transparent keyboard unit further comprises another matrix of keys, each key respectively corresponding to an intermediate region between different pairs of adjacent segmented areas, said keys at the intermediate regions being utilized to rearrange the arrangement of said reduced still pictures on said screen.--

--11. A picture processing system comprising:

a random access recording and playback member having a main recording portion in which a plurality of still picture signals are electronically recorded and an index recording portion in which a plurality of reduced still picture signals are electronically recorded, each of the reduced still pictures corresponding to a different one of said still pictures; and

a monitoring means including: a screen for displaying either a group of said reduced still pictures in multiple segmented areas formed on said screen as an index to said still pictures or one of said still pictures; selecting means for designating one of said multiple segmented areas to select the reduced still picture displayed therein by directly pointing to the surface of said screen, and for controlling said random access recording and playback member; and means for electronically recording the signal of the one still picture corresponding to the selected one of said reduced still pictures.--

TS-25/F-2919

REMARKS

The disclosure and pending claims 1 through 5 have been extensively revised to correct the numerous spelling and ideomatic error informalities noted by the Examiner in both the specification and the claims.

Claim 1 has also been amended in response to paragraph 2 of the action rejecting all claims under 35 U.S.C. 112, second paragraph, to replace "informations" and "squeezed still pictures", with "digital signals" and "reduced still pictures", respectively specifically referred to in paragraph 3. The Examiner inquired as to what "reproduced" refers to in line 10, of claim 1. "Reproduced" there refers to the digital signal reproduced by the recording member (corresponding to the disk recording/reproducing unit 3 of Fig. 1), which signal was previously recorded by that device, and outputted to the index memory for recording therein. The Examiner further requests how the contents are "rearranged" responsive to a selection in line 16 of claim 1. As can be seen from the above amendment to claim 1, the claim refers to the rearrangement of the contents of the index memory means. This function is described on page 7 between lines 15 through 23. Claims 2, 4 and 5 have also been amended to change the language noted by the Examiner in paragraphs 4, 5, and 6.

In paragraphs 7 and 8 of the Action, the Examiner has objected to the specification and rejected all claims 1 through 5 under 35 U.S.C. 112, first paragraph, noting in particular the box 4 labeled squeezer and the block 9 which should be labeled "memory replacement control" in Fig. 1 which allegedly are not disclosed in an enabling manner.

The applicants advise that the squeezer 4 may comprise a digital memory, for example, in which a full frame image is written and then read out in the manner described such that three scanning lines are thinned out of four scanning lines and three

TS-25/F-2919

sample points along the fourth scanning thinned out of each set of four sampling points so that a reduced picture signal is produced or, alternatively, a BBD circuit which has 58 line registers (about one-quarter of all scan lines of a television image) and write clock pulses of 1.5 MHz and read clock pulses of 6 MHz can be used to reduce the picture size and that these reducing techniques are well known by those skilled in the art. The Examiner is also directed to U.S. Patent 3,825,674, a copy of which is enclosed, which describes a television branching system in which multiple picture images are reduced for simultaneous presentation of four reduced picture images on a single, conventional television screen.

The applicants further advise that the memory replacement control circuit 11 may comprise a micro-processor controlled circuit which can produce write addresses and read addresses to the index memory 5 under the control of program software so as to achieve memory rearrangement during procedures such as picture insertion or exchange. It is believed that the implementation of such a system is well within the capability of one of ordinary in this art, without undue experimentation, given the subject disclosure.

Applicant also includes copies of U.S. Patents 4,321,635 to Tsuyuguchi relating to an apparatus for selective retrieval of information streams or items from a disk and U.S. Patent 4,058,840 to Kasprzak, describing a method and apparatus for recording a single video frame. None of these references is believed to anticipate or render obvious the claimed invention but the Examiner is invited to review them himself and reach his own conclusion of pertinence. A copy of PTO Form 1449 listing these references is also enclosed.

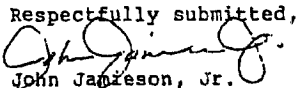
AX203831

TS-25/F-2919

Applicant submits herewith for further consideration by the Examiner new claims 6 through 11, which are believed to more clearly and distinctly claim the subject invention. Neither of the two new independent claims 6 and 11 expressly call for a squeezer or a memory replacement control.

If patentable subject matter is found, applicants will have box 11 of Fig. 1 corrected to read "MEMORY REPLACEMENT CONTROL".

Reexamination of the original claims 1 through 5 and examination of the newly presented claims 6 through 11 and allowance of all claims 1 through 11 is therefore requested.

Respectfully submitted,

John Jamieson, Jr.
Registration No. 29,546

JJJ:RAP

Dated: July 23, 1985

WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS
1800 United Engineers Building
30 South 17th Street
Philadelphia, PA 19103
(215) 568-3100

AX203832



350.00 - 117

Case Docket No. TS-25

In re ~~Application of~~ ZENJI HARADA, ASAMU TERAOKA & TSUMEO MIKADO

Serial No. 455,115

Group Art Unit: 264

Filed January 3, 1983

For PICTURE PROCESSING SYSTEM

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Sir:

Transmitted herewith is an amendment in the above-identified application, Form PTO 1449 (one sheet), copies of U.S. Patents 3,825,674, 4,321,635 and 4,058,840

☐ Small entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.☐ A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.

The fee has been calculated as shown below:

	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	SMALL ENTITY		OTHER THAN A SMALL ENTITY	
					RATE	ADDIT. FEE	RATE	ADDIT. FEE
TOTAL	11	MINUS	20 (at least 20)	=	x 5=		x 10=	0
INDEP.	3	MINUS	3 (at least 3)	=	x 15=		x 30=	0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+ 50=		+ 100=	

Total additional fee for amended claims

0

☒ Petition is hereby made under 37 C.F.R. §1.136(a) to extend the time for response to the Office Action of 1-23-85 to and through 7-23-85, comprising an extension of the shortened statutory period of:

	SMALL ENTITY	OTHER THAN SMALL ENTITY
one month	<input type="checkbox"/> \$25	<input type="checkbox"/> \$50
two months	<input type="checkbox"/> \$75	<input type="checkbox"/> \$150
three months	<input type="checkbox"/> \$175	<input checked="" type="checkbox"/> \$350
four months	<input type="checkbox"/> \$275	<input type="checkbox"/> \$550

Additional fee for extended response

350

Applicant(s) has/have not been notified that the requested extension will not be permitted if the present application is not involved in an interference declared pursuant to 37 C.F.R. §1.207.

Total additional fee required

350

07/31/85 455115

1 117

350.00 CK

AX203833



Case Docket No. TS-25

- ☒ A check in the amount of \$ 350 is attached.
- ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____.
A duplicate of this sheet is attached.
- ☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 23-3050.
A duplicate copy of this sheet is attached.
- ☒ Any filing fees under 37 C.F.R. 1.16 including fees for presentation of extra claims.
- ☒ Any patent application processing fees under 37 C.F.R. 1.17 and under 37 C.F.R. 1.20(d).

(Date) July 23, 1985

John Jamieson, Jr.
Attorney of Record
John Jamieson, Jr.
Registration No. 29,546

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all correspondence identified as accompanying this correspondence is being deposited with the United States Postal service as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231 on July 23, 1985.

John Jamieson, Jr. Registration No. 29,546


UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/455,115	01/03/83	HARADA Z	TS-25/F2919

NORMAN L. NORRIS
 WOODCOCK, WASHBURN, KURTZ, MACKIEWICZ
 & NORRIS, 1800 UNITED ENGINEERS BLDG.
 30 SOUTH 17TH ST.
 PHILADELPHIA, PA 19103

EXAMINER	
BRIGANCE, G	
ART UNIT	PAPER NUMBER
264	

DATE MAILED: 11/13/85

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

 This application has been examined ☒ Responsive to communication filed on 7-21-85 ☒ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
 Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133
Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 5. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-11 are pending in the application.
 Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-11 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☒ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received
 [] been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

AX203835

Serial No. 455,115
Art Unit 264

-2-

1. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. In claim 1, lines 22-25, this "rearranging" limitation is functional as not containing sufficient apparatus to support the claimed function. Note MPEP 706.03(c). Furthermore, "rearranging" is still vague and indefinite.
3. In claim 5, line 4, "each intermediate region" has no antecedent basis.
4. In claim 6, lines 13-17, "of a type operative by directly pointing" is vague. What is directly pointed? The same question applies to claim 11.
5. The last 3 lines of both claims 9 and 10 are functional for the same reason as claim 1 above.
6. The following is a quotation of the first paragraph of 35 U.S.C. 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an enabling disclosure.
7. Although applicant's description of the "squeezer" circuit as an ordinary picture reduction circuit is satisfactory, there is still not an adequate descrip-

AX203836

Serial No. 455,115
Art Unit 264

-3-

tion of the "memory replacement control" and applicant's mere assertion that it is "well within the capability of one of ordinary skill in the art" is insufficient to rebut the examiner's prima facie rejection.

8. Claims 1-6, 9 and 10 are rejected under 35 U.S.C. 112, first paragraph, for the reasons set forth in the above objection to the specification.

9. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

10. Claims 6-8 and 11 are rejected under 35 U.S.C. 103 as being unpatentable over Tsuyuguchi in view of Ablett.

11. Tsuyuguchi teaches an indexing scheme for selecting one of a plurality of reduced size representations of still pictures for displaying a corresponding full sized picture. Ablett teaches the use of a light pen for selecting one of a plurality of displayed pictures for further processing.

AX203837

Serial No. 455,115
Art Unit 264

-4-

12. It would have been obvious to a routineer in the art to select Tsuyuguchi's index via a light pen arrangement such as Ablett's. Note that Tsuyuguchi teaches the use of an optical disk storage which is essentially a random access memory device. Note that light pens and keyboards are well known equivalents.

13. McCoy and Kishi et al are also cited as being pertinent. McCoy teaches a system for displaying multiple reduced pictures simultaneously with the ability to selectively manipulate them on the screen or to display any of them as a magnified image. Kishi et al is a system for selecting subregions of a displayed picture for magnification via a keyboard.

14. It is noted that the prior art cited by the applicant was the same art cited by the examiner in application No. 437317 although applicant's response was conspicuously silent regarding this fact.

15. Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy set forth in 37 CFR 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT

AX203838

Serial No. 455,115
Art Unit 264

-5-

WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN
SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

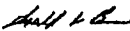
16. Any inquiry concerning this communication or
earlier communications from the examiner should be
directed to Gerald L. Brigance whose telephone number is
(703) 557-0452.

Any inquiry of a general nature or relating to the
status of this application should be directed to the
Group receptionist whose telephone number is (703)
557-3321.

GL Brigance:klw

9-30-85

(703) 557-0452


GERALD L. BRIGANCE
PRIMARY EXAMINER
GROUP 264

AX203839

TO SEPARATE, HOLD TOP AND BOTTOM EDGES, SNAP-APART AND DISCARD CARBON

FORM PTO-892 (REV. 3-78)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. <i>4:5 115</i>	GROUP ART UNIT <i>264</i>	ATTACHMENT TO PAPER NUMBER <i>7</i>			
NOTICE OF REFERENCES CITED				APPLICANT(S) <i>Harada et al</i>					
U.S. PATENT DOCUMENTS									
*		DOCUMENT NO.	DATE	NAME	CLASS	FILING DATE IF APPROPRIATE			
A		<i>3801741</i>	<i>4-2-74</i>	<i>Ablott</i>	<i>340</i>	<i>707</i>			
B		<i>4266242</i>	<i>5-5-81</i>	<i>McCoy</i>	<i>358</i>	<i>22</i>			
C		<i>4366475</i>	<i>12-28-82</i>	<i>Kishi et al</i>	<i>340</i>	<i>721 2-20-81</i>			
D									
E									
F									
G									
H									
I									
J									
K									
FOREIGN PATENT DOCUMENTS									
*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L									
M									
N									
O									
P									
Q									
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)									
R									
S									
T									
U									
EXAMINER <i>G. Brigance</i>					DATE <i>9-18-85</i>				
<p style="text-align: right;">AX203840</p> <p>* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05 (a).)</p>									

[illegible]

AX203841

390.00 - 117.00

MAILED MAY 10 1986

THE UNITED STATES PATENT & TRADEMARK OFFICE

Application of 1986

Serial No. 455,115

Filed: Jan. 3, 1983

For: PICTURE PROCESSING SYSTEM

Case Docket: TS-2A

Group Art Unit: 264

Examiner: G. BRIGANCE

"EXPRESS MAIL" MAILING LABEL NUMBER 863955752

DATE OF DEPOSIT: May 10, 1986

I HEREBY CERTIFY THAT THIS PAPER IS THE PROPERTY OF THE UNITED STATES PATENT & TRADEMARK OFFICE TO WHICH IT IS LOANED BY THE ADDRESSEE AND IS TO BE RETURNED TO THE OFFICE TO WHICH IT IS LOANED BY THE ADDRESSEE.

WASHINGTON, D.C.

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

John Jamieson, Jr. Reg. #29,54

Signature: John Jamieson, Jr.

Petition for Extension of Time

Petition is hereby made under 37 C.F.R. § 1.136(a) to extend the time for response to the Office Action of November 13, 1985 to and through May 13, 1986 comprising an extension of the shortened statutory period of:

	small entity	other than small entity
one month	<input type="checkbox"/> \$ 28	<input type="checkbox"/> \$ 56
two months	<input type="checkbox"/> \$ 85	<input type="checkbox"/> \$ 170
three months	<input type="checkbox"/> \$ 195	<input checked="" type="checkbox"/> \$ 390
four months	<input type="checkbox"/> \$ 305	<input type="checkbox"/> \$ 610

☒ A check in this amount is enclosed. Please charge any deficiency to Deposit Account No. 23-3050.

☐ Please charge the fee to Deposit Account No. 23-3050.

RECEIVED

MAY 20 1986

GROUP 260

This form is submitted in duplicate.

05/16/86 NS118

May 10, 1986

1 117 390.00 CK

(date) May 10, 1986 MONTH EXTENSION GRANTED

By Direction

Registration No. 29,546

Signature: M. Oliver 5/21/86

AX203842


UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/455,115	01/03/88	HARADA	Z 1S-25/F2919

NORMAN L. NURRIS,
 WOODCOCK, WASHBURN, KURTZ, MACKIEWICZ
 & NORRIS, 1800 UNITED ENGINEERS BLDG.
 30 SOUTH 17TH ST.
 PHILADELPHIA, PA 19103

EXAMINER	
BRIGANCE, G	
ART UNIT	PAPER NUMBER
264	

DATE MAILED: 05/19/86

NOTICE OF ABANDONMENT

This application is abandoned in view of:

1. ☒ Applicant's failure to respond to the Office letter, mailed 11-13-85.
2. ☐ Applicant's letter of express abandonment which is in compliance with 37 C.F.R. 1.138.
3. ☐ Applicant's failure to timely file the response received _____ within the period set in the Office letter.
4. ☐ Applicant's failure to pay the required issue fee within the statutory period of 3 months from the mailing date of _____ of the Notice of Allowance.
 - ☐ The issue fee was received on _____.
 - ☐ The issue fee has not been received in Allowed Files Branch as of _____.

in accordance with 35 U.S.C. 151, and under the provisions of 37 C.F.R. 1.318(b), applicant(s) may petition the Commissioner to accept the delayed payment of the issue fee if the delay in payment was unavoidable. The petition must be accompanied by the issue fee, unless it has been previously submitted, in the amount specified by 37 C.F.R. 1.17 (f), and a verified showing as to the causes of the delay.

If applicant(s) never received the Notice of Allowance, a petition for a new Notice of Allowance and withdrawal of the holding of abandonment may be appropriate in view of *Delgar Inc. v. Schuyler*, 172 U.S.P.Q. 513.
5. ☐ Applicant's failure to timely correct the drawings and/or submit new or substitute formal drawings by _____ as required in the last Office action.
 - ☐ The corrected and/or substitute drawings were received on _____.
6. ☐ The reason(s) below.

AX203843

Gerald L. Brigance
 GERALD L. BRIGANCE
 PRIMARY EXAMINER
 GROUP 264

MAIL DATE CANCELLED
MAY 10 1986
U.S. DEPT. OF COMMERCE
WASHINGTON, D.C. 20231



CASE DOCKET NO.

862041
TS-39

#10

Sir:

Transmitted herewith for filing is the patent application of:

Inventors: ZENJI HARADA, OSAMU
TERAOKA, TSUNEO MIKADO

For: PICTURE PROCESSING SYSTEM

Enclosed are:

☒ four sheets of drawing. (informal)☐ An assignment of the invention to _____☐ A certified copy of a _____ application.☒ An associate power of attorney.☒ An unexecuted Declaration and Power of Attorney.
☐ A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.☒ This is a continuation-in-part of Serial No. 455,115 filed January 3, 1983. Please transfer the drawings from the prior application to this application, and abandon said prior appln. as of the filing date accorded this appln.***
The filing fee has been calculated as shown below.

	(Col. 1)	(Col. 2)
FOR:	NO. FILED	NO. EXTRA
BASIC FEE		
TOTAL CLAIMS	11 - 20 =	0
INDEP CLAIMS	3 - 3 =	0
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED		

* If the difference in Col. 1 is less than zero, enter "0" in Col. 2

SMALL ENTITY		OR	OTHER THAN A SMALL ENTITY	
RATE	FEE		RATE	FEE
	\$170	OR		\$340
x 6 =	\$	OR	x 12 =	\$ 0
x 17 =	\$	OR	x 34 =	\$ 0
+ 55 =	\$	OR	+ 110 =	\$
TOTAL	\$	OR	TOTAL	\$340

☐ Please charge my Deposit Account No. _____ in the amount of \$ _____. A duplicate copy of this sheet is enclosed.☒ A check in the amount of \$ 340.00 to cover the filing fee is enclosed.☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 23-3050. A duplicate copy of this sheet is enclosed.☒ Any additional filing fees required under 37 CFR 1.16, including fees for presentation of extra claims.☒ Any patent application processing fees under 37 CFR 1.17 and under 37 CFR 1.20 (d).☒ The Commissioner is hereby authorized to charge payment of the following fees during the pendency of this application or credit any overpayment to Deposit Account No. 23-3050. A duplicate copy of this sheet is enclosed.☒ Any patent application processing fees under 37 CFR 1.17 and under 37 CFR 1.20 (d).☐ The issue fee set in 37 CFR 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR 1.311(b).☒ Any filing fees under 37 CFR 1.16 including fees for presentation of extra claims.

May 10, 1986

Date

*** A duplicate copy of this sheet is enclosed for filing in the prior application file.

John Jamieson, Jr., Reg. No. 29,546
(Attorney of Record)

AX203844

SEP 13 2001

Application Number

06/455 115

Fäoa

1-3-83

Group Art Unit

1. Eastern

Paper No.

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AX203845

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Application Number 06/455,115 Filed 1/3/83

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United States Patent Number 4802,071, column _____, line, _____, or

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AX203846

United States Patent [19]

Harada et al.

[11] Patent Number: 4,802,019

[45] Date of Patent: Jan. 31, 1989

[34] PICTURE PROCESSING SYSTEM FOR
SELECTIVE DISPLAY

[75] Inventors: Zenji Harada, 2-25-2, Uguisudai,
Kawanishi-shi, Hyogo-ken; Osamu
Teraoka, 13-7, Akasakadal 3-chome,
Sakai-shi, Osaka; Tsunao Mikado,
4-1-5-307, Shimomoguro,
Meguro-ku, Tokyo, all of Japan

[21] Appl. No.: 862,041

[22] Filed: May 12, 1986

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 455,115, Jan. 3, 1983,
abandoned.

[30] Foreign Application Priority Data

Jan. 11, 1982 [JP] Japan 57-2531
Jan. 20, 1982 [JP] Japan 57-4971

[51] Int. Cl.⁴ H04N 5/76[52] U.S. Cl. 358/333; 369/32;
360/10.1; 360/72.2; 360/33.1; 358/183;
340/707[58] Field of Search 369/30, 32; 360/10.1,
360/72.2, 33.1, 35.1, 9.1; 358/335, 183, 342, 22;
340/721, 723, 724, 731, 747, 707

[56] References Cited

U.S. PATENT DOCUMENTS

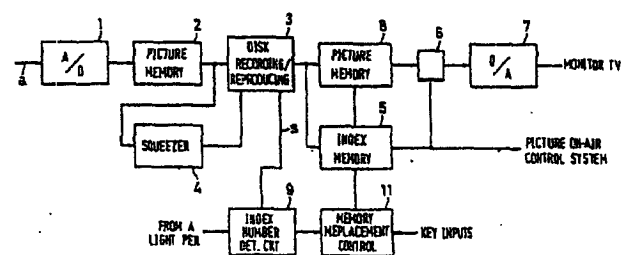
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Primary Examiner—Alan Faber
Attorney, Agent, or Firm—Woodcock Washburn Kurtz
Mackiewicz & Norris

[57] ABSTRACT

A picture processing system for displaying a plurality of still pictures recorded in a recording member. The recording member has index tracks for storing a series of information representative of a plurality of squeezed still pictures corresponding to the original still pictures. A group of squeezed still pictures is displayed in multiple segmented areas formed on an index screen accompanied by reference numerals. A light pen and a sensing circuit is provided for rearranging the index screen. The light pen detects the position of said segmented areas and intermediate regions respectively provided between two adjacent areas for processing the rearrangement.

9 Claims, 4 Drawing Sheets



AX203847

FORM PRO-875

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. 455115	FILED DATE 1-9-83
APPLICANT (PRINT NAME) Harada et al		

CLAIMS AS FILED - PART I

(Col. 1)		(Col. 2)		SCALE ENTRY		OTHER THAN A SCALE ENTRY	
FIG.	NO. FIGS.	NO. FIGS.		RATE	FEES	RATE	FEES
BASIC FEE					\$150		\$100
TOTAL CLAIMS	3	0		x5=	\$	x10=	\$
INDEF. CLAIMS	1	0		x15=	\$	x30=	\$
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT				+50=	\$	+100=	\$
				TOTAL	\$	OR TOTAL	\$300

* If the difference in Col. 1 is less than zero, enter "0" in Col. 2

CLAIMS AS AMENDED - PART II

(Col. 1)		(Col. 2)		(Col. 3)		SCALE ENTRY		OTHER THAN A SCALE ENTRY	
FIG.	NO. FIGS.	FIG.	NO. FIGS.	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADJUST. FEE	RATE	ADJUST. FEE
TOTAL	11	NONE		20		x5=	\$	x10=	\$
INDEF.	3	NONE		21		x15=	\$	x30=	\$
<input type="checkbox"/> MULTIPLE DEPENDENT OF MULTIPLE DEP. CLAIM						+50=	\$	+100=	\$
						TOTAL	\$	OR TOTAL	\$

(Col. 1)		(Col. 2)		(Col. 3)		SCALE ENTRY		OTHER THAN A SCALE ENTRY	
FIG.	NO. FIGS.	FIG.	NO. FIGS.	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADJUST. FEE	RATE	ADJUST. FEE
TOTAL	11	NONE		20		x5=	\$	x10=	\$
INDEF.	3	NONE		21		x15=	\$	x30=	\$
<input type="checkbox"/> MULTIPLE DEPENDENT OF MULTIPLE DEP. CLAIM						+50=	\$	+100=	\$
						TOTAL	\$	OR TOTAL	\$

(Col. 1)		(Col. 2)		(Col. 3)		SCALE ENTRY		OTHER THAN A SCALE ENTRY	
FIG.	NO. FIGS.	FIG.	NO. FIGS.	HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADJUST. FEE	RATE	ADJUST. FEE
TOTAL	11	NONE		20		x5=	\$	x10=	\$
INDEF.	3	NONE		21		x15=	\$	x30=	\$
<input type="checkbox"/> MULTIPLE DEPENDENT OF MULTIPLE DEP. CLAIM						+50=	\$	+100=	\$
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AX203848

PALM III APPLICATION FILE DATA CODING SHEET										U.S. DEPARTMENT OF COMMERCE Pat. & TM. Off.		PREPARED BY <u>Brent</u>		DATE <u>2-1-83</u>							
PTO-130 (Rev. 9-78)		FORMAT NO. 2 / SERIAL NO.		TYPE		FILING DATE		SPECIAL HANDLING		CLASS		SHEETS OF DRAWINGS		TOTAL CLAIMS		INDEPENDENT CLAIMS		FILING FEE RECEIVED		SECURITY CLASS	
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FORMAT NO. 8		RECORD		8 0 1		PARENT APPLICATION SERIAL NUMBER		PARENT FILING DATE		STATUS CODE		PARENT PATENT NUMBER									
RECORD		8 0 2		PARENT APPLICATION SERIAL NUMBER		PARENT FILING DATE		STATUS CODE		PARENT PATENT NUMBER											
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RECORD		8 0 6		PARENT APPLICATION SERIAL NUMBER		PARENT FILING DATE		STATUS CODE		PARENT PATENT NUMBER											
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RECORD		9 0 5		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
RECORD		9 0 6		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
RECORD		9 0 7		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
RECORD		9 0 8		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
RECORD		9 0 9		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
RECORD		9 1 0		PCT/FOREIGN APPLICATION SERIAL NUMBER		FILING DATE		FILING DATE													
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PRINT CLAIM(S):

INTERFERENCE SEARCHED

Claim	Date	Claim	Date
Final		Final	
1		25	
2		26	
3		27	
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